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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/661,617 | 09/14/2000 | Jeffrey J. Spiegelman | 7184-PA10 | 9556 |

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EXAMINER

SINES, BRIAN J

| ART UNIT | PAPER NUMBER |
|----------|--------------|
| 1743 | |

DATE MAILED: 08/02/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|-----------------|------------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/661,617 | SPIEGELMAN, JEFFREY J. |
| | Examiner | Art Unit |
| | Brian J. Sines | 1743 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
 THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-27 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) Interview Summary (PTO-413) Paper No(s) _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1 – 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang (US 5,873,263 A) in view of Boston et al. (US 6,041,263 A). Regarding claims 1, 2, 5 – 8, 12 – 14, 16 – 19 and 22 – 25, Chang teaches processes and equipment used for fluid purification. In the design of a conventional fluid purification system, such as the system taught by Chang, it would have been obvious to one of ordinary skill in the art to be able to select the appropriate equipment components, such as cooling vessels, cooling devices, piping systems, valves, filtration devices, distillation devices, etc., depending upon the operating requirements of the purification system, so that the purification system would operate effectively and in an optimized manner (col. 3, lines 12 – 67; col. 4, lines 1 – 45). Chang does not specifically teach the use of an

automated method, such as a computer program, in the selection of the appropriate equipment in the design of a fluid purification system. However, Boston et al. teach a method and apparatus for simulating and optimizing a plant model. Boston et al. teach the use of databases, or data storage areas, for plant simulation models, which contain a multiplicity of equipment models, in process engineering design (col. 1, lines 53 – 66; col. 3, lines 53 – 65). Boston et al. teach that the use of computer-based models can aid in developing and optimizing new processes, design and retrofit plants, and optimize the operation of existing plants (col. 1, lines 11 – 50). Boston et al. teach that access is provided to the method through a computer software system using a digital processor contained in a computer and operated in a user-interactive manner (col. 2, lines 39 – 66). Therefore, it would have been obvious to one of ordinary skill in the art to provide a method for identifying fluid purification equipment, which is optimized for use in a particular fluid purification system, the method comprising the steps of: providing a relational database of equipment specifications regarding a plurality of equipment components from which a selection of individual equipment components may be made; providing access to the relational database through an interactive interface using an operating system comprising a series of sequential inquiries, wherein the inquiries elicit defining information from the operator regarding the particular fluid purification system; and using the defining information to identify those equipment components can be operated so as to optimize a fluid purification system, since the courts have held that to provide a mechanical, or automatic, means to replace manual activity is within the ambit of one of ordinary skill in the art. See *In re Venner*,

120 USPQ 192 (CCPA 1958). Regarding claims 3, Boston et al. teach that the models use in the chemical process represent process equipment that incorporates pertinent performance characteristics, such as fluid flow rate (col. 3, lines 53 – 65). Regarding claims 4 and 20, the categories of equations, which can be termed equipment models and property models, together form the process model. Therefore, it would have been obvious to one of ordinary skill in the art to incorporate a database, which is comprised of subdatabases, which comprise a selection of information regarding of at least one property of at least one equipment component. Regarding claim 9, Boston et al. teach that chemical process simulation software can be used to make better engineering and business decisions (col. 1, lines 11 – 23). Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the specification of the availability of certain equipment components in the marketplace, including alternatives and their effect on design and manufacturing costs, in the process design. Regarding claim 10, it would have been obvious to one of ordinary skill in the art to design a fluid purification system, which utilized equipment components, which are operationally compatible in order to provide for a functioning system. Regarding claims 11 and 21, it would have been obvious to one of ordinary skill in the art to incorporate evaluation data and a notification system, which includes the suggestion of providing an option for alternative compatible equipment combinations in order to provide for a functioning system with regards to the market availability of equipment components and including their functional compatibility. Regarding claim 15, Chang teaches the use of a filter device, which may have any suitable form, which is determined by the kind of matter to be

filtered (col. 4, lines 11 – 16). Therefore, it would have been obvious to one of ordinary skill in the art to incorporate a method step comprising the removal of contaminants to a suitable level, depending upon the type of system, to a level in a parts per million, or a parts per billion range, in order to effect the required level of contaminant removal. Regarding claims 26 and 27, providing access to electronic media comprising a global computer network, also known as ‘the internet’ or the “web,” is notoriously well-known in the art. Therefore, it would have been obvious to one of ordinary skill in the art to provide access to the fluid purification process design software through an internet website on a global computer network in order to provide for widespread accessibility and ease of use to other software users.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. DeTore et al. teach an automated decision-making arrangement. Alvarez, Jr. et al. teach a method and apparatus for the purification of hydride gas streams. Britt et al. teach plant simulation software. Spiegelman et al. teach a method for the recovery and reuse of a gas.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Sines whose telephone number is (703) 305-0401. The examiner can normally be reached on Monday - Friday (11:30 AM - 8 PM EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on (703) 308-4037. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

BJS
July 26, 2002


Jill Warden
Supervisory Patent Examiner
Technology Center 1700